



FOREST PEST REPORTER

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Gypsy Moth Defoliation Decreases

Gypsy moth defoliation of the state's forest and shade trees declined from 39,580 acres in 1995 to 27,990 acres in 1996 according to the N.J. Department of Agriculture's most recent statewide gypsy moth aerial survey. There was 3,380 acres of moderate defoliation, 12,725 acres of heavy defoliation and 11,885 acres of severe defoliation. The heaviest damage occurred in the counties of Atlantic, Burlington, Cape May and Cumberland. A summary of the results are shown in table 1.

The 30% decrease in gypsy moth defoliation levels was due to the increased spray effort this spring by the Department and the widespread occurrence of the fungus disease, Entomophaga maimaiga, which impacts mostly late instar gypsy moth larvae. The impact of the fungus was most obvious in the northern half of the state where, in past years, a typical gypsy moth outbreak would last for two or three years.

In the counties of Union, Somerset and Middlesex where defoliation was showing signs of trending upwards with 3,770

acres of defoliation in 1995, defoliation has dropped dramatically in 1996 with just 170 acres. There was widespread fungal infection observed in these populations last summer but the 95 percent drop in what appeared to be a building gypsy moth population was more than was expected. In fact, the presence of viable gypsy moth populations (500+egg masses/acre) in the highly susceptible oak forests of the northern New Jersey now may be described as an "unusual sighting."

In the southern half of the state the fungus disease impacts are more sporadic in nature. Major declines in defoliation occurred in Salem (from 6,900 acres in 1995 to 2,055 acres in 1996) and Cape May (11,065 acres in 1995 to 3,030 in 1996). Significant defoliation increases occurred in Burlington (2,145 ac. to 3,485 ac.) and Cumberland (9,540 ac. to 12,445 ac.) counties. Entomophaga epizootics appear to effect the gypsy moth populations differently in northern and southern counties. North Jersey gypsy moth populations have a sudden build-up in an area but die-off **the same year due to the fungus without expanding to new areas.**

In south Jersey, the gypsy moth populations also have a sudden build-up and die-off within a certain geographical area due to fungus but **expand to new areas the following year.** If this pattern continues into the

future, the days of massive 100,000+ acres of heavy gypsy moth defoliation may be over in New Jersey.

CICADA DAMAGE OBSERVED DURING AERIAL SURVEY

Many thousand of acres of mostly oak forests were observed with heavy canopy flagging due to oviposition damage by the 17-Year Cicada. The branch flagging occurs several weeks after egg deposition when the outer 2 foot sections of the branch break off and the leaves wilt at the point where the cicada's sliced into the branch.

There were four major infestations areas, where thousands of acres were observed with heavy canopy damage. They were located in eastern Cumberland and western Atlantic counties in south Jersey; in northern New Jersey three major infestations were observed within the Watchung and South Mountain Reservations in Union and Essex counties: Morristown National Historical Park, Mendham Township, Bernardville Borough in Morris and Somerset counties; Norvin Green State Forest, Wanaque Borough, Ringwood Borough and West Milford Township in Passaic County; and in the western portions of Knowlton and Blairstown townships in Warren County. Infestations will not appear again in these areas until the year 2013.

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